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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/921,560	08/06/2001	Koji Matsukuma	102392.01	7818
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EXAMINER

COLEMAN, WILLIAM D

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/921,560

Applicant(s)

MATSUKUMA, KOJI

Examiner

W. David Coleman

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 27-32 and 38-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-32 and 38-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/219,707.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 19, 2003 has been entered.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 27-30 and 38-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Livesay, U.S. Patent 5,468,595.

4. Livesay discloses an etching mask as claimed for claim 27. See **FIGS. 1-13**, where Livesay teaches an etching mask for selectively etching a workpiece, wherein the etching mask is made of a metal 69 and has a cross-sectional shape comprising a rectangular first region that determines a pattern width of the workpiece, and a second region that contacts the first region and intercept application of etching beams to a sidewall of the first region during etching.

5. Pertaining to claim 28, Livesay teaches an etching mask for selectively etching a workpiece, wherein the etching mask is made of a metal and has a cross-sectional shape comprising a rectangular first region that determines a pattern width of the workpiece, and a

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second region that intercepts application of etching beams to a sidewall of the first region during etching, wherein the etching mask has a T-shaped cross section.

6. Pertaining to claim 29, Livesay discloses the teaching mask according to claim 28, comprising a cross section including a vertical bar having an end that contacts with a surface of the workpiece, and a lateral bar placed on another end of the vertical bar and having a width greater than a width of the vertical bar, wherein a pattern width of the workpiece is determined by the width of the vertical bar.

7. Pertaining to claim 30, Livesay discloses an etching mask for selectively etching a workpiece, wherein the etching mask is made of a metal and has a cross-sectional shape comprising a rectangular first region that determines a pattern width of the workpiece, and a second region that intercepts application of etching beams to a sidewall of the first region during etching, wherein the first region is a vertical bar having an end that contacts with a surface of the workpiece, and the second region is a lateral bar placed on another end of the vertical bar and having a width greater than a width of the vertical bar, wherein a pattern width of the workpiece is determined by the width of the vertical bar.

8. Pertaining to claim 38, Livesay teaches an etching mask for selectively etching a workpiece, wherein the etching mask is made of a metal and has a cross-sectional shape comprising a rectangular first region that determines a pattern width of the workpiece and a second region that contacts the first region and intercepts application of etching beams to a sidewall of the first region during etching, wherein the first region has a first height and a first width and the second region has a second width, and wherein the second width is greater than the first width and first height is greater than the second height.

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9. Pertaining to claim 39, Livesay teaches an etching mask for selectively etching a workpiece, wherein the etching mask is made of a metal and has cross-sectional shape comprising a rectangular first region that determines a pattern width of the workpiece and a second region that intercepts application of etching beams to a sidewall of the first region during etching, wherein the etching mask has a T-shape cross-section, wherein the first region has a first height and a first width and a second region has a second height and a second width, and wherein the second width is greater than the first width and first height is greater than the second height.
10. Pertaining to claim 40, Livesay teaches the etching mask of claim 38 wherein the second region continuously contacts the first region along the first width of the first region.
11. Pertaining to claim 41, Livesay teaches the etching mask of claim 39 wherein the second region continuously contacts the first region along the first width of the first region.
12. Pertaining to claim 42, Livesay teaches wherein the vertical bar continuously contacts the lateral bar along the entire width of the vertical bar.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Livesay, U.S. Patent 5,468,595 as applied to claims 27, 28, 29 and 30 above and further in view of Hirano, et al., U.S. Patent 5,652,157.

15. Pertaining to claims 31, 32 and 43, Livesay teaches a semiconductor process substantially as claimed, wherein the etching mask according to claims 28 and 27 is a metal. However, Livesay fails to disclose that the metal is selected from the group consisting of Au (gold). Hirano teaches wherein the metal consist of Au (gold). In view of Hirano, it would have been obvious to one of ordinary skill in the art to incorporate gold as a metal mask in the Livesay semiconductor process because it provides a process for forming dummy gates (see title).

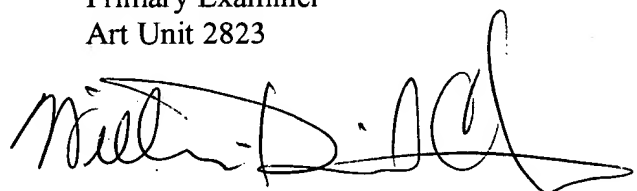
***Conclusion***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 703-305-0004. The examiner can normally be reached on 9:00 AM-5:00 PM.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

18. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

W. David Coleman  
Primary Examiner  
Art Unit 2823



WDC  
July 21, 2003